May 17, 1996

M E M O R A N D U M

TO: Orville D. Green, Assistant Administrator
Permits and Enforcement

FROM: Brian R. Monson, Chief
Operating Permits Bureau

SUBJECT: P-777-00182 Lake Pre-Mix Concrete, Sandpoint
(Tier II Operating Permit Amendment)

PROJECT DESCRIPTION

On July 7, 1995, DEQ issued Tier II Operating Permit No. 777-00182 to Lake Pre-Mix Concrete for the operation of a concrete batch plant in downtown Sandpoint. Lake Pre-Mix has requested to amend the permit to allow for maximum operational flexibility within the proposed Sandpoint PM-10 nonattainment area. This permitting action does not constitute a permit modification. Consequently, the Sandpoint SIP does not have to be reopened and another public comment period is not required.

DISCUSSION

On July 7, 1995, DEQ issued a Tier II Operating Permit to Lake Pre-Mix for the operation of a concrete batch plant. That permit was amended on May 17, 1996. The amended permit is in effect until May 17, 2001.

FEES

Tier II Operating Permit application fees, as required by IDAPA 16.01.01.470 of the Rules for the Control of Air Pollution in Idaho, applied to the facility upon issuance of the permit on July 7, 1995. Payment of the $500.00 fee was received on April 22, 1996. Issuance of the amendment was allowed upon receipt of the payment for issuance of the original Tier II OP.

No additional fees are required for this project, because it is not a substantive permit amendment.

RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend Lake Pre-Mix Concrete be issued an amended Tier II Operating Permit for the operation of a Johnson 630 Portable Concrete Batch Plant. Because this permitting action is not a modification, the Sandpoint SIP does not have to be reopened and another public comment period is not required.

BR/jrj:Lake Pre-Mix.MM

cc: R. Wilkosz/TSB
P. Rayne/AFS
NIRO
Source File
COF

May 17, 1996

M E M O R A N D U M

TO: Brian R. Monson, Chief
Operating Permits Bureau
Permits and Enforcement

FROM: Bill Rogers, Air Quality Engineer BR
Construction Permits Bureau

THROUGH: Susan J. Richards, Air Quality Permits Manager cda
Operating Permits Bureau

SUBJECT: **TIER II OPERATING PERMIT TECHNICAL ANALYSES**
P-777-00182 Lake Pre-Mix Concrete, Sandpoint
(Tier II Operating Permit Amendment)

PROJECT DESCRIPTION

Lake Pre-Mix Concrete has requested to amend the Tier II Operating Permit issued on July 7, 1995, for their concrete batch plant located in downtown Sandpoint, Idaho. The equipment specified in the amended permit is a Johnson 630 Portable Concrete Batch Plant. All throughput limits and PM-10 emission limits have been retained in the amended permit. Consequently, this permitting action does not constitute a permit modification which would trigger the reopening of the Sandpoint SIP and the need for another public comment period.

In addition, the Fugitive Emissions Sources section of the July 7, 1995 permit has been removed in the amended permit. Instead, the source must not have any visible emissions cross any facility boundary at any time, and the source must reasonable control all fugitive emission sources. These permit conditions ensures the integrity of the ambient air at and beyond the facility boundary and the protection of the NAAQS.

SUMMARY OF EVENTS

On July 7, 1995, DEQ issued a Tier II Operating Permit to Lake Pre-Mix Concrete for the operation of a concrete batch plant in the downtown Sandpoint area. That permit was amended on May 17, 1996. The amended permit remains in effect until May 17, 2001.

A. Discussion

1. Area Classification

Sandpoint, Idaho is located in Bonner County. The Sandpoint area has been designated as a proposed PM-10 nonattainment area. The area is designated as an attainment or unclassifiable area for all other criteria pollutants.

2. Emission Estimates

Because this permitting action is not a modification, an emissions analysis was not performed.

3. Facility Classification

This facility is not a major facility as defined in IDAPA 16.01.01.006.54 and IDAPA 16.01.01.008.14. The facility is non-designated as defined in IDAPA 16.01.01.006.25. This facility is not an affected facility and is therefore, not regulated by any New Source Performance Standard (NSPS). The facility classification is B because potential uncontrolled emission are less than 100 T/yr. The SIC code is 3273 (Ready-Mixed Concrete).

4. AIRS

The AIRS database forms have been changed to reflect the amendments to this facility. The amended forms are presented as Appendix A of this technical analysis.

5. Modeling

A modeling analysis was not required for this permitting action.

6. Fees

Tier II Operating Permit application fees, as required by IDAPA 16.01.01.470 of the Rules for the Control of Air Pollution in Idaho, applied to the facility upon issuance of the permit on July 7, 1995. Payment of the $500.00 fee was received on April 22, 1996. Issuance of the amendment was allowed upon receipt of the payment for issuance of the original Tier II OP.

No additional fees are required for this project, because it is not a substantive permit amendment.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that Lake Pre-Mix Concrete be issued amended Tier II Operating Permit No. 777-00182 for the operation of a Johnson 630 Portable Concrete Batch Plant. Emissions have not increased as a result of this permitting action, therefore, the Sandpoint SIP does not have to be reopened and an another public comment period is not required.

BR/jrj: Lake Pre-Mix.TM

cc: R. Wilkosz/TSB
P. Rayne/AFS
NIRO
Source File
COF

May 8, 1996

MEMORANDUM

TO: Orville D. Green, Assistant Administrator
Permits and Enforcement

FROM: Brian R. Monson, Chief
Operating Permits Bureau

SUBJECT: Lake Pre-Mix Concrete (Sandpoint)
Tier II Operating Permit Amendment (#017-00040)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01.400 of the Rules for the Control of Air Pollution in Idaho (Rules) for issuing operating permits.

PROJECT DESCRIPTION

Lake Pre-Mix Concrete (Lake) requested that they be allowed to erect a portable concrete batch plant at their present site within the Sandpoint PM_{10} Nonattainment Area during the dismantling of the plant that is currently on site. The portable batch plant must abide by all substantive requirements of Tier II Operating Permit (OP) #017-00040, and simultaneous production with both plants is prohibited. This is not a substantive permit amendment.

Tier II OP #017-00040 allows for operation at the present location and one other location, upon approval from DEQ. Lake's proposed site appears to nearly meet the ninety (90) $\mu g/m^3$ PM_{10} background concentration in the permit. Community Programs' SIP group concurs that this move meets the substantive objectives of the Sandpoint PM_{10} SIP RACT/RACM Implementation Plan, and thus OPB staff concur that facility relocation to the proposed site is allowable with respect to air quality considerations. The exact facility location will be altered on page 1 of Tier II OP #017-00040 upon notification of plant startup at the new site.

SUMMARY OF EVENTS

On March 15, 1996, and March 20, 1996, DEQ received correspondence requesting the amendment of Tier II OP #017-00040 that was issued July 7, 1995, and the approval of a proposed relocation site.

FEES

No additional fees are required for this project, because it is not a substantive permit amendment.

RECOMMENDATIONS

Based on the review of the material submitted and on the applicable state and federal regulations, the Bureau staff recommends that the amendment letter for Lake Pre-Mix Concrete, Sandpoint, be issued. No public comment is required because this project consists of a nonsubstantive amendment, a site relocation review allowed under the existing permit, and the original permit was issued for public comment review in 1995. No additional fees are required for this permit amendment.

ODG\BRM\DAM:jrj...\permit\lakepre.mem

cc: G. Burr, NIRO
P. Rayne, AFS
Source File
COF

May 8, 1996

MEMORANDUM

TO: Brian R. Monson, Chief
Operating Permits Bureau

FROM: Darrin A. Mehr, Air Quality Engineer
Operating Permits Bureau

THROUGH: Susan J. Richards, Air Quality Permits Manager
Operating Permits Bureau

SUBJECT: Technical Analysis for Non-substantive Amendment to Tier II Operating Permit #017-00040 (Lake Pre-Mix Concrete)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01.400 of the Rules for the Control of Air Pollution in Idaho (Rules) for the issuance of Operating Permits.

FACILITY DESCRIPTION

Lake Pre-mix Concrete's existing facility is a fixed concrete batch plant located in the Sandpoint Non-attainment area. The concrete plant consists of a cement storage silo, weigh hopper, and aggregate bucket elevator. Raw cement is delivered to the facility by bulk delivery truck. The cement is pneumatically transported through a pipe to the cement storage silo. Cement is then delivered from the cement silo to the weigh hopper by an enclosed auger. Sized aggregate is conveyed from ground level to enclosed elevated storage bins by bucket elevator.

Cement and sized aggregate are apportioned by the enclosed weigh hopper for delivery into mixer trucks. Water and the aggregate/cement combination are introduced to the mixer trucks located below the overhead weigh hopper. Fugitive PM_{10} emissions resulting from the transfer of the aggregate/sand and cement mixture from the weigh hopper to the mixer trucks are controlled by a shrouding fogger unit. The mixer trucks blend the mixture and transport the concrete off-site.

Emissions from operation of the concrete batch plant include fugitive PM and PM_{10} emissions resulting from loader and truck traffic on unpaved roads, aggregate drops, aggregate transport in the bucket elevator, and wind erosion of exposed storage piles. Point source emissions result from the pneumatic transport of cement from bulk truck to the storage silo and the venting of the weigh hopper during operation.

PROJECT DESCRIPTION

The Lake Pre-Mix facility is currently located in the heart of the downtown Sandpoint area. When viewing the facility's ambient air quality impacts at the property line they are significant. Lake Pre-Mix's Tier II OP allows a single relocation of the existing facility to a site with an ambient background PM_{10} concentration of 90 $\mu g/m^3$ or less, provided Lake Pre-Mix operates with a 20 meter setback restriction, and regularly applies an approved chemical dust suppressant to the mixer truck haul roads. The allowable daily production for the facility will be 400 yd^3/day at the new site, provided the above conditions are met.

Lake Pre-Mix requested that the permit be amended to allow them to stand a portable concrete batch plant (Johnson Model 630), while they dismantle the existing fixed plant. The portable batch plant must abide by all substantive permit requirements that apply to the fixed batch plant. Concurrent operation of the batch plants at the site is prohibited.

The facility submitted the necessary documentation to complete the project analysis. The documentation included a plot plan and statement of intent to relocate the fixed batch plant to the new site. This site is near the University of Idaho Research Farm, Louisiana-Pacific Corp., and L.D. McFarland facilities. Lake Pre-Mix's responsible official submitted a letter of agreement that the portable Johnson Model 630 plant will abide by the fixed batch plant's permit conditions and a guarantee that the plants will not operate concurrently at the existing site. Operation of the portable plant at the existing site will cease upon completion of standing the relocated fixed plant.

SUMMARY OF EVENTS

July 7, 1995:	Lake Pre-Mix Concrete was issued Tier II OP #017-00040 for RACT/RACM Implementation Project
January 17, 1996:	DEQ Sends Lake Pre-Mix Concrete a Formal Letter Explaining Relocation and Modification Options
February 23, 1996:	Lake Pre-Mix Submits an Informal Request to Stand a Portable Concrete Batch Plant at Current Location During Dismantling of Existing Plant
March 11, 1996:	Received UTM Coordinates for the Relocation Site
March 15, 1996:	Lake Pre-Mix Submits Scaled Plot Plan and Aerial Map of Relocation Site
March 20, 1996:	Lake Pre-Mix Submits Formal Statement of Portable Plant Adherence to Tier II OP #017-00040
May 2, 1996:	Formal Approval on Proposed Relocation Received from DEQ's Air Resources and Prevention, Community Services

DISCUSSION

1. Emission Limits and Operating Requirements

Emission limits and throughput limitations will remain unchanged. The only exception to changes in operating requirements will be for the portable batch plant minimum height requirement for the baghouse vent. A minimum height of 30 feet is acceptable for operation of the portable plant.

2. Modeling

A complete discussion of the modeling exercise performed for the demonstration of attainment is contained within the updated version of the Sandpoint Area Particulate (PM_{10}) Air Quality Improvement Plan. The modeling predicts that with the updated industrial source emission inventories, the implementation of the control strategy in the above document demonstrates attainment of the 24 hour average, 150 microgram per cubic meter ($\mu g/m^3$) PM_{10} National Ambient Air Quality Standard (NAAQS). This modeling exercise provides the basis for the issuance of the original permit.

A modeling run was performed to determine the effects of a lower discharge height of the portable batch plant's baghouse vent. An increase in the predicted impacts could have resulted in slightly reduced permitted operations. The change in height resulted in a negligible change in predicted ambient air quality impacts (see Attachment A).

Lake Pre-Mix has requested a relocation of the original facility to a site with an ambient background PM_{10} concentration of approximately 93 $\mu g/m^3$. However, Tier II OP #017-00040 allows for a relocation to a site with an ambient PM_{10} background concentration of 90 $\mu g/m^3$. No additional modeling was performed to allow this relocation. Approval for relocation to the new site has been formally granted by DEQ's Community Services, Air Resources and Prevention (see Attachment B). The decision was based on the RACT/RACM Implementation Project SIP attainment demonstration's conservatism in emission estimates and modeling. Permits and Enforcement staff agree with the decision to allow this move. The relocation will remove the facility from the center of downtown Sandpoint, which is the area of maximum predicted ambient background concentration for PM_{10}.

3. Area Classification

Lake Pre-Mix is located in the Sandpoint PM_{10} nonattainment area, in Bonner County. The area is designated as attainment or unclassifiable for all other criteria pollutants.

4. Facility Classification

Lake Pre-Mix is not a major source. Lake Pre-Mix is not a designated facility, as defined in IDAPA 16.01.01.006.25 of the Rules for the Control of Air Pollution in Idaho.

5. Regulatory Review - The facility is subject to the following permitting requirements:

a)	IDAPA 16.01.01.200	Procedures and Requirements for Permits to Construct.
b)	IDAPA 16.01.01.401.03(a)	Tier II Operating Permit Required for Attainment of a National Ambient Air Quality Standard.
c)	IDAPA 16.01.01.403	Permit Requirements for Tier II Sources.
d)	IDAPA 16.01.01.406	Obligation to Comply.
e)	IDAPA 16.01.01.625	Visible Emission Opacity Limit.
f)	IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust.

FEES

Tier II Operating Permit application fees, as required by IDAPA 16.01.01.470 of the Rules, applied to the facility upon issuance of the permit on July 7, 1995. Payment of the $500.00 fee was received on April 22, 1996. Issuance of the amendment was allowed upon receipt of the payment for issuance of the original Tier II OP.

RECOMMENDATIONS

After a review of the existing Tier II Operating Permit's requirements, the modeling demonstration's isopleth map of predicted PM_{10} background concentrations within the Sandpoint NAA, and the formal approval by DEQ's Community Services staff, the Bureau staff recommends that DEQ issue Lake Pre-Mix Concrete a non-substantive amendment to Tier II operating permit #017-00040. The amendment letter should be attached to the permit, as it contains enforceable provisions for the facility to abide by.

The portable concrete batch plant shall abide by all emission limits, throughput restrictions, and operating restrictions (except for baghouse vent stack height). These restrictions are based on requirements of the Sandpoint PM_{10} SIP and the information provided by Lake Pre-Mix Concrete in the development of the updated SIP attainment demonstration control strategy, and this permit amendment.

No additional permit fees are associated with this amendment. No public comment period is required for this amendment.

BRM\SJR\DAM:jrj...\permit\lpremix.tam

cc: D. Redline, NIRO
Source File
COF

Attachment A

Revised Stack Height Analysis

MEMORANDUM

DATE: MARCH 20, 1996

TO: DARRIN MEHR, AIR QUALITY ENGINEER, OPERATING PERMITS BUREAU (OPB), PERMITS AND ENFORCEMENT (P&E)

FROM: KRISHNA VISWANATHAN, AIR QUALITY ENGINEER, AIR RESOURCES AND PREVENTION, COMMUNITY SERVICES

SUBJECT: REVISED SET-BACK ANALYSIS FOR LAKE PRE-MIX CONCRETE, SANDPOINT

Background

Lake Pre-Mix, Sandpoint was one of the facilities in the Sandpoint non-attainment area (NAA) subject to industrial control strategy in the Sandpoint SIP. A set-back analysis was performed on this facility by the P&E (memo. dated 05.22.95 - Chris Johnson) to determine the impacts due to various set-backs for the facility from fence-line.

The facility owner, Steve Lafrenz, approached DEQ with a revised scenario in early 1996, in preparation for relocation of his facility. Steve Lafrenz proposed dismantling his existing concrete batch plant in preparation for relocation, and using a portable Johnson 630 plant, in the interim, until he had his original plant fully relocated and operational. It is DEQ's understanding that at no time will the two plants operate simultaneously.

This analysis is performed to assess the changes in impacts due to the only difference between the existing plant versus the proposed Johnson 630 plant. The stack height of the Johnson 630 plant is 30 feet instead of the currently existing plant's 37 feet. All other operational and design factors affecting emissions are identical in both setups. For all other details refer to memorandum dated May 22, 1995 by Chris Johnson, P&E.

Results:

Results of the analysis indicate the change in stack heights alone does not constitute any change in impacts from the earlier analysis (Chris Johnson memo. - dated 05.22.95). The results are tabulated below for 8 hours and 12 hours of operation per day, as a 24-hr average. The setback distances give the distance from the fence-line in meters, that emissions generating processes in facility have to be offset inside the facility boundary. The impacts are given for 8 and 12 hours of operation, as 24 hour averages. Background allowances specify the background value of location, permissible for each setback distance.

Setback Distances (m)	24-hr average impacts for 8 hour operation (μgm^{-3})	Background allowances 8 hr ops.	24-hr average impacts for 12 hour operation (μgm^{-3})	Background allowances 12 hr ops.
10	104.5	45.5	123.2	26.8
20	46.4	103.6	54.7	95.3
30	37.0	113	43.6	106.4

So the first row reads; for a 10 m setback and 8 hours of operation the facility impact at fence-line would be 104.5 μgm^{-3} and the facility can be relocated to an area with background concentration of 45.5 μgm^{-3}. For the same setback, 12 hours of operation causes a 123.2 μgm^{-3} impact at fence-line and in that case the facility can be located to an area with a background concentration of 26.8 μgm^{-3}.

This analysis has been performed for only the change in stack height and should be utilized only in that aspect. All other conditions exist as per proposed operating permit No. 017-00040 and the associated technical memorandum. This does not preclude the owner from any outstanding P&E requirements associated with dismantling and moving his facility to a different location. The facility owner should work in close contact with P&E, to ensure compliance with all applicable air rules for the State of Idaho.

CC: Mike McGown, Manager, AQPS
Sue Richards, Manager, OPB
Mary Walsh, Meteorologist, TSB

Attachment

FUGITIVE DUST MODEL (FDM)
VERSION 93042
NOV, 1992
DATE AT START OF RUN: 03/19/96 TIME AT START OF RUN: 11:36:01.39

RUN TITLE:
Lake Pre-Mix Operating Permit review Darrin Mehr

INPUT FILE NAME: lake912.in
OUTPUT FILE NAME: lake912.out

CONVERGENCE OPTION 1=OFF, 2=ON	1
MET OPTION SWITCH, 1=CARDS, 2=PREPROCESSED	1
PLOT FILE OUTPUT, 1=NO, 2=YES	1
MET DATA PRINT SWITCH, 1=NO, 2=YES	1
POST-PROCESSOR OUTPUT, 1=NO, 2=YES	1
DEP. VEL./GRAV. SETL. VEL., 1=DEFAULT, 2=USER	1
PRINT 1-HOUR AVERAGE CONCEN, 1=NO, 2=YES	3
PRINT 3-HOUR AVERAGE CONCEN, 1=NO, 2=YES	3
PRINT 8-HOUR AVERAGE CONCEN, 1=NO, 2=YES	3
PRINT 24-HOUR AVERAGE CONCEN, 1=NO, 2=YES	3
PRINT LONG-TERM AVERAGE CONCEN, 1=NO, 2=YES	3
BYPASS RAMMET CALMS RECOGNITION, 1=NO, 2=YES	0
READ HOURLY EMISSION RATES, 1=NO, 2=YES	0
NUMBER OF SOURCES PROCESSED	18
NUMBER OF RECEPTORS PROCESSED	99
NUMBER OF PARTICLE SIZE CLASSES	3
NUMBER OF HOURS OF MET DATA PROCESSED	8760
LENGTH IN MINUTES OF 1-HOUR OF MET DATA	60.
ROUGHNESS LENGTH IN CM	9.00
SCALING FACTOR FOR SOURCE AND RECPTORS	1.0000
PARTICLE DENSITY IN G/CM**3	1.50
ANEMOMETER HEIGHT IN M	10.00

GENERAL PARTICLE SIZE CLASS INFORMATION

PARTICLE SIZE CLASS	CHAR. DIA. (UM)	GRAV. SETTLING VELOCITY (M/SEC)	DEPOSITION VELOCITY (M/SEC)	FRACTION IN EACH SIZE CLASS
1	2.5000000	**	**	0.2640
2	5.0000000	**	**	0.2920
3	10.0000000	**	**	0.4440

** COMPUTED BY FDM

1

RECEPTOR COORDINATES (X,Y,Z)

(	0.,	0.,	0.)	(	10.,	0.,	0.)	(	20.,	0.,	0.)
(	30.,	0.,	0.)	(	30.,	9.,	0.)	(	41.,	18.,	0.)
(	51.,	18.,	0.)	(	62.,	18.,	0.)	(	72.,	18.,	0.)
(	72.,	29.,	0.)	(	72.,	39.,	0.)	(	64.,	39.,	0.)
(	56.,	39.,	0.)	(	48.,	39.,	0.)	(	48.,	48.,	0.)
(	38.,	57.,	0.)	(	29.,	57.,	0.)	(	19.,	57.,	0.)
(	10.,	57.,	0.)	(	0.,	57.,	0.)	(	0.,	48.,	0.)
(	0.,	38.,	0.)	(	0.,	29.,	0.)	(	0.,	19.,	0.)
(	0.,	10.,	0.)	(	0.,	-15.,	0.)	(	10.,	-15.,	0.)
(	20.,	-15.,	0.)	(	30.,	-15.,	0.)	(	45.,	-15.,	0.)
(	45.,	5.,	0.)	(	51.,	3.,	0.)	(	62.,	3.,	0.)
(	72.,	3.,	0.)	(	87.,	3.,	0.)	(	87.,	29.,	0.)
(	87.,	39.,	0.)	(	87.,	54.,	0.)	(	64.,	54.,	0.)
(	63.,	48.,	0.)	(	63.,	57.,	0.)	(	63.,	72.,	0.)
(	29.,	72.,	0.)	(	19.,	72.,	0.)	(	10.,	72.,	0.)
(	0.,	72.,	0.)	(	-15.,	48.,	0.)	(	-15.,	38.,	0.)
(	-15.,	29.,	0.)	(	-15.,	19.,	0.)	(	-15.,	10.,	0.)
(	-15.,	0.,	0.)	(	-15.,	-15.,	0.)	(	-10.,	57.,	0.)
(	-10.,	48.,	0.)	(	-10.,	38.,	0.)	(	-10.,	29.,	0.)
(	-10.,	19.,	0.)	(	-10.,	10.,	0.)	(	-10.,	0.,	0.)
(	38.,	67.,	0.)	(	29.,	67.,	0.)	(	19.,	67.,	0.)
(	10.,	67.,	0.)	(	0.,	67.,	0.)	(	40.,	0.,	0.)
(	40.,	10.,	0.)	(	40.,	20.,	0.)	(	40.,	29.,	0.)
(	40.,	39.,	0.)	(	-20.,	57.,	0.)	(	-20.,	48.,	0.)
(	-20.,	38.,	0.)	(	-20.,	29.,	0.)	(	-20.,	19.,	0.)
(	-20.,	10.,	0.)	(	-20.,	0.,	0.)	(	38.,	77.,	0.)
(	29.,	77.,	0.)	(	19.,	77.,	0.)	(	10.,	77.,	0.)
(	0.,	77.,	0.)	(	50.,	0.,	0.)	(	50.,	10.,	0.)
(	50.,	20.,	0.)	(	-30.,	57.,	0.)	(	-30.,	48.,	0.)
(	-30.,	38.,	0.)	(	-30.,	29.,	0.)	(	-30.,	19.,	0.)
(	-30.,	10.,	0.)	(	-30.,	0.,	0.)	(	38.,	87.,	0.)
(	29.,	87.,	0.)	(	19.,	87.,	0.)	(	10.,	87.,	0.)
(	0.,	87.,	0.)	(	60.,	0.,	0.)	(	60.,	10.,	0.)

1

SOURCE INFORMATION

TYPE	ENTERED EMIS. RATE (G/SEC, G/SEC/M OR G/SEC/M**2)	TOTAL EMISSION RATE (G/SEC)	WIND SPEED FAC.	X1 (M)	Y1 (M)	X2 (M)	Y2 (M)	HEIGHT (M)	WIDTH (M)
1	0.002900000	0.00290	0.000	17.	30.	0.	0.	9.14	0.00

1	0.000500000	0.00050	0.000	17.	30.	0.	0.	9.14	0.00
3	0.011000000	0.01100	0.000	20.	37.	1.	1.	3.70	0.00
3	0.000001200	0.00007	1.300	22.	5.	8.	8.	2.00	0.00
3	0.000001800	0.00010	1.300	22.	19.	8.	8.	2.00	0.00
3	0.000018000	0.00007	0.000	18.	5.	2.	2.	1.50	0.00
3	0.000027000	0.00011	0.000	18.	20.	2.	2.	1.50	0.00
3	0.000089000	0.00018	1.300	14.	26.	2.	1.	3.70	0.00
3	0.000025000	0.00084	1.300	14.	13.	9.	4.	1.50	0.00
2	0.000180000	0.00242	0.000	8.	2.	21.	5.	1.00	1.50
2	0.000260000	0.00552	0.000	8.	2.	20.	19.	1.00	1.50
2	0.001000000	0.01882	0.000	19.	6.	14.	24.	1.00	1.50
2	0.001500000	0.01145	0.000	20.	20.	14.	24.	1.00	1.50
2	0.001400000	0.04130	0.000	28.	2.	28.	31.	1.00	1.50
2	0.001400000	0.01400	0.000	28.	31.	20.	37.	1.00	1.50
2	0.001400000	0.01252	0.000	20.	37.	28.	41.	1.00	1.50
2	0.001400000	0.01120	0.000	28.	41.	28.	49.	1.00	1.50
2	0.001400000	0.00840	0.000	28.	49.	28.	55.	1.00	1.50

TOTAL EMISSIONS 0.14140E+00 GRAMS/SEC
NOTE: SOME SOURCE EMISSION RATES ARE A FUNCTION OF WIND SPEED AND TOTAL IS NOT CORRECT

SHORT DISTANCE (5,000 M) MASS CONSERVATION CORRECTION FACTORS USED

1

TOP 50 TABLE FOR 1 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	66	40.0	0.0	499	1581.8186	6.2952
2	66	40.0	0.0	6381	1557.3553	7.1773
3	30	45.0	-15.0	499	1305.9857	5.1730
4	30	45.0	-15.0	6381	1282.2385	5.8859
5	4	30.0	0.0	3495	1222.8833	7.0188
6	4	30.0	0.0	1767	1205.8812	6.1594
7	29	30.0	-15.0	499	1205.4551	4.7975
8	29	30.0	-15.0	6381	1186.8975	5.4701
9	4	30.0	0.0	7415	1183.1681	5.6532
10	4	30.0	0.0	2982	1154.2316	6.1310
11	5	30.0	9.0	3495	1138.4104	6.5388
12	5	30.0	9.0	1767	1117.2025	5.7110
13	66	40.0	0.0	5358	1116.9818	5.6179
14	5	30.0	9.0	7415	1100.4940	5.2634
15	5	30.0	9.0	2982	1059.3258	5.6319
16	4	30.0	0.0	6879	972.5427	6.6714
17	4	30.0	0.0	6995	960.4207	5.7539

18	5	30.0	9.0	6879	929.7346	6.3803
19	5	30.0	9.0	6995	924.3641	5.5402
20	16	38.4	57.0	6720	917.0151	4.5025
21	30	45.0	-15.0	5358	892.8027	4.4759
22	3	20.0	0.0	7415	859.7052	4.1065
23	59	-10.0	9.5	6692	857.1593	4.2229
24	68	40.0	19.5	499	849.1874	3.3854
25	68	40.0	19.5	6381	836.8988	3.8626
26	6	40.5	18.0	499	823.4292	3.2799
27	17	28.8	57.0	7059	820.9760	4.9159
28	66	40.0	0.0	7415	820.2158	3.8835
29	17	28.8	57.0	3070	818.2797	5.3462
30	17	28.8	57.0	2548	816.3149	5.6168
31	67	40.0	9.8	499	813.0880	3.2366
32	6	40.5	18.0	6381	811.1723	3.7412
33	67	40.0	9.8	6381	800.6823	3.6907
34	17	28.8	57.0	6216	797.4028	6.8785
35	4	30.0	0.0	5358	792.8806	4.0241
36	17	28.8	57.0	7727	792.1804	4.9067
37	29	30.0	-15.0	5358	791.2758	3.9780
38	25	0.0	9.5	4340	788.1555	4.5943
39	17	28.8	57.0	627	784.6566	4.6755
40	4	30.0	0.0	3603	781.7245	5.8154
41	17	28.8	57.0	1136	781.6611	5.2610
42	67	40.0	9.8	5358	780.8124	3.9279
43	70	40.0	39.0	7942	780.7009	3.3235
44	17	28.8	57.0	1747	780.3364	5.5197
45	70	40.0	39.0	1590	779.3115	3.3676
46	51	-15.0	9.5	6692	777.1065	3.8210
47	61	38.4	67.0	1804	775.6797	3.9147
48	70	40.0	39.0	7800	774.7092	3.3768
49	4	30.0	0.0	3604	773.0090	5.6952
50	70	40.0	39.0	4536	764.2269	4.2257

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HIGHEST AND SECOND HIGHEST VALUES FOR 1 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	0.0	0.0	528.5276	6692.	2.6112	519.1938	4340.	3.0207
2	10.0	0.0	623.4765	1224.	4.1440	617.3285	4420.	5.5286
3	20.0	0.0	859.7052	7415.	4.1065	723.4377	3495.	4.1496
4	30.0	0.0	1222.8833	3495.	7.0188	1205.8812	1767.	6.1594
5	30.0	9.0	1138.4104	3495.	6.5388	1117.2025	1767.	5.7110
6	40.5	18.0	823.4292	499.	3.2799	811.1723	6381.	3.7412
7	51.0	18.0	531.8857	5326.	3.0809	529.1070	7941.	2.3614

8	61.5	18.0	265.6670	5326.	1.5330	256.6159	7941.	1.1408
9	72.0	18.0	202.5345	7941.	0.8979	201.4722	5326.	1.1593
10	72.0	28.5	151.3267	3547.	1.5436	151.3091	5455.	1.6404
11	72.0	39.0	199.7178	2541.	1.5555	196.4129	2542.	1.4977
12	64.0	39.0	296.1842	7005.	1.4395	243.8693	7800.	1.0533
13	56.0	39.0	471.8622	7005.	2.2978	438.6570	7800.	1.8985
14	48.0	39.0	679.7358	7005.	3.3204	658.5162	7800.	2.8584
15	48.0	48.0	761.4401	7942.	3.2246	755.9042	1590.	3.2495
16	38.4	57.0	917.0151	6720.	4.5025	738.9088	4536.	4.0961
17	28.8	57.0	820.9760	7059.	4.9159	818.2797	3070.	5.3462
18	19.2	57.0	529.2400	7975.	3.2709	408.8758	3715.	4.1909
19	9.6	57.0	371.8900	6622.	2.8764	360.8190	3308.	3.0033
20	0.0	57.0	252.1212	3308.	2.0927	249.5823	6622.	1.9248
21	0.0	47.5	377.3857	7945.	1.7231	359.9182	2330.	1.9855
22	0.0	38.0	332.1806	435.	2.0316	329.8087	6692.	1.6262
23	0.0	28.5	633.6166	6385.	3.6462	622.5969	7945.	2.8503
24	0.0	19.0	631.7968	5212.	3.7085	619.8810	3149.	3.5945
25	0.0	9.5	788.1555	4340.	4.5943	731.5353	1001.	3.6436
26	0.0	-15.0	447.0386	3700.	3.0585	444.2283	3936.	3.3256
27	10.0	-15.0	483.8338	1660.	3.0553	482.7841	1226.	3.1984
28	20.0	-15.0	399.8434	1225.	2.6749	399.8269	3073.	2.7089
29	30.0	-15.0	1205.4551	499.	4.7975	1186.8975	6381.	5.4701
30	45.0	-15.0	1305.9857	499.	5.1730	1282.2385	6381.	5.8859
31	45.0	5.0	665.7892	499.	2.6374	653.9614	6381.	3.0021
32	51.0	3.0	509.6981	5326.	2.9491	480.8716	7941.	2.1443
33	61.5	3.0	422.3417	6506.	2.3136	403.4191	4992.	2.3754
34	72.0	3.0	353.0908	7941.	1.5665	352.7711	7725.	1.6591
35	87.0	3.0	224.0450	5326.	1.2862	213.4632	7941.	0.9440
36	87.0	28.5	118.0503	3547.	1.2018	116.2187	4635.	1.2834
37	87.0	39.0	131.4276	2541.	1.0214	123.7583	2542.	0.9417
38	87.0	54.0	156.9257	8635.	1.0083	156.6697	2138.	1.1170
39	64.0	54.0	546.8452	7005.	2.6536	510.4225	7800.	2.2005
40	63.0	48.0	486.6463	7005.	2.3633	434.6139	7800.	1.8753
41	63.0	57.0	576.7554	7005.	2.7987	565.5446	7800.	2.4382
42	63.0	72.0	591.7943	7800.	2.5536	584.2940	7942.	2.4607
43	28.8	72.0	599.8521	6216.	5.1483	579.0300	2548.	3.9647
44	19.2	72.0	416.5326	7975.	2.5676	306.1748	3714.	3.2603
45	9.6	72.0	314.0659	438.	1.8704	257.5976	3308.	2.1402
46	0.0	72.0	251.1212	6622.	1.9357	247.2379	3308.	2.0507
47	-15.0	47.5	309.6325	6385.	1.7669	257.0800	7945.	1.1667
48	-15.0	38.0	411.2704	7945.	1.8689	347.1024	2330.	1.9087
49	-15.0	28.5	405.6582	6385.	2.3182	399.4136	7945.	1.8161
50	-15.0	19.0	375.5829	6692.	1.8457	320.9020	5212.	1.8734
51	-15.0	9.5	777.1065	6692.	3.8210	551.2245	5212.	3.2154
52	-15.0	0.0	579.0565	6692.	2.8462	528.6317	4340.	3.0622
53	-15.0	-15.0	293.9869	1291.	2.0533	293.7850	3676.	2.1014
54	-10.0	57.0	243.3819	2330.	1.3393	237.7450	6905.	1.9132
55	-10.0	47.5	370.6640	6385.	2.1187	345.5703	7945.	1.5711
56	-10.0	38.0	348.3975	2330.	1.9176	340.5591	6905.	2.7415

57	-10.0	28.5	448.7095	6385.	2.5686	426.2998	7945.	1.9413
58	-10.0	19.0	412.4421	6692.	2.0298	373.8522	5212.	2.1842
59	-10.0	9.5	857.1593	6692.	4.2229	639.6182	6981.	3.2990
60	-10.0	0.0	564.0766	6692.	2.7765	537.3693	4340.	3.1173
61	38.4	67.0	775.6797	1804.	3.9147	512.1575	2549.	3.5123
62	28.8	67.0	720.0569	6216.	6.1917	701.5007	2548.	4.8114
63	19.2	67.0	442.0857	7975.	2.7267	333.7135	3715.	3.4150
64	9.6	67.0	347.8101	438.	2.0725	304.4882	3308.	2.5312
65	0.0	67.0	265.6216	435.	1.6198	242.7520	6622.	1.8713
66	40.0	0.0	1581.8186	499.	6.2952	1557.3553	6381.	7.1773
67	40.0	9.8	813.0880	499.	3.2366	800.6823	6381.	3.6907
68	40.0	19.5	849.1874	499.	3.3854	836.8988	6381.	3.8626
69	40.0	29.3	592.4916	7005.	2.9089	589.9254	2785.	3.0060
70	40.0	39.0	780.7009	7942.	3.3235	779.3115	1590.	3.3676
71	-20.0	57.0	290.6764	7945.	1.3186	235.7015	6385.	1.3433
72	-20.0	47.5	247.0015	6385.	1.4073	214.1707	2330.	1.1756
73	-20.0	38.0	456.2340	7945.	2.0709	372.2188	6385.	2.1225
74	-20.0	28.5	377.4808	7945.	1.7147	376.7518	6385.	2.1501
75	-20.0	19.0	320.1761	6692.	1.5716	276.8180	5212.	1.6151
76	-20.0	9.5	600.4494	6692.	2.9466	454.0193	5212.	2.6450
77	-20.0	0.0	598.3623	6692.	2.9364	486.8226	1001.	2.4059
78	38.4	77.0	580.0120	1804.	2.9237	505.1623	3699.	3.1404
79	28.8	77.0	507.2910	6216.	4.3473	486.5112	2548.	3.3269
80	19.2	77.0	389.3525	7975.	2.3987	289.5806	6312.	2.3804
81	9.6	77.0	279.3106	438.	1.6625	247.7432	7975.	1.5244
82	0.0	77.0	244.3559	3308.	2.0261	243.1005	6622.	1.8731
83	50.0	0.0	599.4816	7941.	2.6724	588.8354	7725.	2.7830
84	50.0	9.8	447.8694	6506.	2.4640	400.7045	4992.	2.3695
85	50.0	19.5	515.7853	5326.	2.9887	495.0901	7941.	2.2104
86	-30.0	57.0	260.9608	6385.	1.4852	260.6267	7945.	1.1802
87	-30.0	47.5	245.2751	7945.	1.1096	233.2384	2330.	1.2786
88	-30.0	38.0	378.1073	6385.	2.1514	373.1236	7945.	1.6897
89	-30.0	28.5	305.6438	6385.	1.7407	236.9120	7945.	1.0738
90	-30.0	19.0	253.5034	6692.	1.2413	209.0882	5212.	1.2180
91	-30.0	9.5	359.4538	6692.	1.7594	316.5296	5212.	1.8414
92	-30.0	0.0	604.7454	6692.	2.9590	400.5980	5212.	2.3282
93	38.4	87.0	424.4732	1027.	2.6927	424.1786	2060.	2.7225
94	28.8	87.0	381.0057	6216.	3.2579	359.3774	2548.	2.4529
95	19.2	87.0	312.4273	7975.	1.9222	261.1182	6312.	2.1437
96	9.6	87.0	246.0731	7975.	1.5128	221.6454	438.	1.3181
97	0.0	87.0	233.8707	438.	1.3896	209.3676	3308.	1.7343
98	60.0	0.0	384.5404	5326.	2.2195	363.7871	7941.	1.6181
99	60.0	9.8	449.5625	7725.	2.1207	445.8181	3648.	2.4976

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TOP 50 TABLE FOR 3 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	66	40.0	0.0	501C	527.2729	2.0984
2	66	40.0	0.0	6381C	519.1185	2.3924
3	16	38.4	57.0	2925	486.9451	3.8776
4	30	45.0	-15.0	501C	435.3286	1.7243
5	30	45.0	-15.0	6381C	427.4128	1.9620
6	4	30.0	0.0	3495C	407.6278	2.3396
7	4	30.0	0.0	1767C	401.9604	2.0531
8	29	30.0	-15.0	501C	401.8184	1.5992
9	29	30.0	-15.0	6381C	395.6325	1.8234
10	4	30.0	0.0	7416C	394.3894	1.8844
11	70	40.0	39.0	2925	386.2571	3.0880
12	4	30.0	0.0	2982C	384.7439	2.0437
13	5	30.0	9.0	3495C	379.4701	2.1796
14	5	30.0	9.0	675C	379.3323	1.9424
15	5	30.0	9.0	1767C	372.4008	1.9037
16	66	40.0	0.0	5358C	372.3273	1.8726
17	5	30.0	9.0	7416C	366.8313	1.7545
18	4	30.0	0.0	3195C	365.0695	3.2927
19	5	30.0	9.0	3195C	362.1410	3.2671
20	4	30.0	0.0	675C	360.0207	1.8435
21	5	30.0	9.0	2982C	353.1086	1.8773
22	4	30.0	0.0	2283	352.8178	2.2567
23	66	40.0	0.0	3816	346.1324	2.7731
24	4	30.0	0.0	6000	344.7665	3.4919
25	2	10.0	0.0	5043C	341.1805	3.0110
26	2	10.0	0.0	3282	338.6285	3.3642
27	3	20.0	0.0	3282	334.7981	3.2854
28	2	10.0	0.0	1875C	330.2188	2.6379
29	4	30.0	0.0	1665C	326.8141	2.4298
30	3	20.0	0.0	675C	325.7461	1.6692
31	4	30.0	0.0	6879C	324.1809	2.2238
32	4	30.0	0.0	6996C	320.1402	1.9180
33	5	30.0	9.0	3816	318.0056	2.5726
34	17	28.8	57.0	2550C	317.3522	2.1829
35	4	30.0	0.0	1656C	317.0518	2.0279
36	2	10.0	0.0	1152C	316.2468	2.2859
37	4	30.0	0.0	3816	315.5013	2.5504
38	2	10.0	0.0	5835C	315.2575	3.3738
39	70	40.0	39.0	1833	312.5461	2.3228
40	5	30.0	9.0	6000	310.7136	3.1764
41	5	30.0	9.0	6879C	309.9115	2.1268
42	27	10.0	-15.0	1227	308.5560	2.0548
43	5	30.0	9.0	6996C	308.1214	1.8467
44	3	20.0	0.0	3816	306.9045	2.4835
45	16	38.4	57.0	6720C	305.6717	1.5008
46	25	0.0	9.5	3150C	302.2384	2.0778

47	5	30.0	9.0	1665C	301.6332	2.2469
48	4	30.0	0.0	2694C	301.2465	2.5948
49	4	30.0	0.0	5550C	300.9029	3.0497
50	4	30.0	0.0	1653C	300.5943	1.9848

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HIGHEST AND SECOND HIGHEST VALUES FOR 3 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	0.0	0.0	282.6577	4944.C	2.6005	243.4681	3150.C	1.8147
2	10.0	0.0	341.1805	5043.C	3.0110	338.6285	3282.	3.3642
3	20.0	0.0	334.7981	3282.	3.2854	325.7461	675.C	1.6692
4	30.0	0.0	407.6278	3495.C	2.3396	401.9604	1767.C	2.0531
5	30.0	9.0	379.4701	3495.C	2.1796	379.3323	675.C	1.9424
6	40.5	18.0	274.4764	501.C	1.0933	270.3908	6381.C	1.2471
7	51.0	18.0	177.2952	5328.C	1.0270	176.3690	7941.C	0.7871
8	61.5	18.0	88.5557	5328.C	0.5110	85.5386	7941.C	0.3803
9	72.0	18.0	67.5115	7941.C	0.2993	67.1574	5328.C	0.3864
10	72.0	28.5	65.9655	7353.C	0.4553	52.4384	6465.C	0.6127
11	72.0	39.0	92.6128	7353.C	0.6382	89.5265	8637.C	0.5745
12	64.0	39.0	128.5491	8637.C	0.8254	114.4500	1833.	0.8232
13	56.0	39.0	177.3247	1833.	1.2824	173.1399	8637.C	1.1125
14	48.0	39.0	249.7670	1833.	1.8246	228.5254	2925.	1.8262
15	48.0	48.0	297.5655	2925.	2.3713	253.8134	7944.C	1.0749
16	38.4	57.0	486.9451	2925.	3.8776	305.6717	6720.C	1.5008
17	28.8	57.0	317.3522	2550.C	2.1829	298.5891	3729.C	2.9238
18	19.2	57.0	176.4133	7977.C	1.0903	170.1312	2343.C	1.8754
19	9.6	57.0	217.6485	3309.C	1.9983	153.4976	438.C	0.9198
20	0.0	57.0	149.1324	3309.C	1.3623	127.5105	438.C	0.7629
21	0.0	47.5	174.8113	3309.C	1.5991	160.6245	438.C	0.9649
22	0.0	38.0	139.1724	555.C	0.9638	135.0116	6501.C	1.2105
23	0.0	28.5	227.0252	6501.C	1.8577	224.4001	1386.C	1.8713
24	0.0	19.0	257.1881	3150.C	1.6620	239.9841	6501.C	2.1228
25	0.0	9.5	302.2384	3150.C	2.0778	262.7185	4341.C	1.5314
26	0.0	-15.0	231.5517	1152.C	1.6355	214.9061	5043.C	1.8920
27	10.0	-15.0	308.5560	1227.	2.0548	276.5860	4752.C	2.3774
28	20.0	-15.0	264.2261	1227.	1.7594	261.4453	4752.C	2.2419
29	30.0	-15.0	401.8184	501.C	1.5992	395.6325	6381.C	1.8234
30	45.0	-15.0	435.3286	501.C	1.7243	427.4128	6381.C	1.9620
31	45.0	5.0	228.5644	3648.	1.4602	221.9297	501.C	0.8791
32	51.0	3.0	169.8994	5328.C	0.9830	162.5037	3648.	1.0017
33	61.5	3.0	140.7806	6507.C	0.7712	134.4730	4992.C	0.7918
34	72.0	3.0	117.6969	7941.C	0.5222	117.5904	7725.C	0.5530
35	87.0	3.0	74.6817	5328.C	0.4287	71.1544	7941.C	0.3147
36	87.0	28.5	39.3501	3549.C	0.4006	38.7396	4635.C	0.4278

37	87.0	39.0	59.1689	7353.C	0.4076	43.8092	2541.C	0.3405
38	87.0	54.0	83.7024	8637.C	0.5357	76.1886	7353.C	0.5242
39	64.0	54.0	182.2817	7005.C	0.8845	170.1409	7800.C	0.7335
40	63.0	48.0	162.2154	7005.C	0.7878	154.8001	1833.	1.1150
41	63.0	57.0	192.2518	7005.C	0.9329	188.5148	7800.C	0.8127
42	63.0	72.0	214.0078	2925.	1.6991	197.2648	7800.C	0.8512
43	28.8	72.0	199.9507	6216.C	1.7161	196.6901	2550.C	1.3467
44	19.2	72.0	138.8442	7977.C	0.8559	115.2979	2343.C	1.2650
45	9.6	72.0	152.0799	3309.C	1.3903	105.1178	438.C	0.6261
46	0.0	72.0	147.1564	3309.C	1.3445	86.3631	438.C	0.5143
47	-15.0	47.5	103.2108	6387.C	0.5890	99.5412	6501.C	0.8191
48	-15.0	38.0	137.0901	7947.C	0.6230	130.3183	6501.C	1.1175
49	-15.0	28.5	156.1553	6501.C	1.3058	135.2194	6387.C	0.7727
50	-15.0	19.0	148.2097	6501.C	1.3359	145.9855	555.C	1.0082
51	-15.0	9.5	259.0355	6693.C	1.2737	183.7415	5214.C	1.0718
52	-15.0	0.0	193.0188	6693.C	0.9487	176.2106	4341.C	1.0207
53	-15.0	-15.0	182.0159	4944.C	1.6656	144.3837	1578.C	1.2112
54	-10.0	57.0	88.1706	3309.C	0.8119	81.1273	2331.C	0.4464
55	-10.0	47.5	123.5547	6387.C	0.7062	115.1901	7947.C	0.5237
56	-10.0	38.0	123.3116	6501.C	1.0782	116.1325	2331.C	0.6392
57	-10.0	28.5	173.9413	6501.C	1.4442	149.5698	6387.C	0.8562
58	-10.0	19.0	182.5562	6501.C	1.6291	166.6088	555.C	1.1518
59	-10.0	9.5	285.7198	6693.C	1.4076	213.2061	6981.C	1.0997
60	-10.0	0.0	188.8602	3150.C	1.3149	188.0255	6693.C	0.9255
61	38.4	67.0	258.5599	1806.C	1.3049	221.1774	2550.C	1.5153
62	28.8	67.0	241.5909	2550.C	1.6569	240.0190	6216.C	2.0639
63	19.2	67.0	159.9546	3309.C	1.4701	147.3619	7977.C	0.9089
64	9.6	67.0	177.1110	3309.C	1.6171	124.3482	438.C	0.7417
65	0.0	67.0	145.9840	3309.C	1.3390	103.7780	438.C	0.6196
66	40.0	0.0	527.2729	501.C	2.0984	519.1185	6381.C	2.3924
67	40.0	9.8	271.0293	501.C	1.0789	266.8941	6381.C	1.2302
68	40.0	19.5	283.0625	501.C	1.1285	278.9663	6381.C	1.2875
69	40.0	29.3	299.8847	1833.	2.2240	275.3665	2925.	2.2052
70	40.0	39.0	386.2571	2925.	3.0880	312.5461	1833.	2.3228
71	-20.0	57.0	96.8921	7947.C	0.4395	78.5672	6387.C	0.4478
72	-20.0	47.5	87.2305	6501.C	0.7180	82.3338	6387.C	0.4691
73	-20.0	38.0	152.0780	7947.C	0.6903	130.4707	6501.C	1.1056
74	-20.0	28.5	140.0441	6501.C	1.1800	125.8269	7947.C	0.5716
75	-20.0	19.0	129.0599	555.C	0.8906	124.2883	7110.	0.9659
76	-20.0	9.5	200.1498	6693.C	0.9822	151.3398	5214.C	0.8817
77	-20.0	0.0	199.4541	6693.C	0.9788	162.2742	1002.C	0.8020
78	38.4	77.0	193.3373	1806.C	0.9746	168.3874	3699.C	1.0468
79	28.8	77.0	169.0970	6216.C	1.4491	164.0515	2550.C	1.1218
80	19.2	77.0	129.7842	7977.C	0.7996	96.9050	2343.C	1.0595
81	9.6	77.0	130.8418	3309.C	1.1939	93.9978	2343.C	1.0304
82	0.0	77.0	141.6724	3309.C	1.2899	81.2091	438.C	0.4829
83	50.0	0.0	226.3896	3648.	1.3872	199.8272	7941.C	0.8908
84	50.0	9.8	149.2898	6507.C	0.8213	133.5682	4992.C	0.7898
85	50.0	19.5	171.9284	5328.C	0.9962	165.0300	7941.C	0.7368

86	-30.0	57.0	86.9869	6387.C	0.4951	86.8756	7947.C	0.3934
87	-30.0	47.5	81.7584	7947.C	0.3699	77.8412	6501.C	0.6358
88	-30.0	38.0	126.0358	6387.C	0.7171	124.3745	7947.C	0.5632
89	-30.0	28.5	110.6110	6501.C	0.9488	101.8813	6387.C	0.5802
90	-30.0	19.0	104.7547	555.C	0.7219	100.7186	7110.	0.7821
91	-30.0	9.5	119.8179	6693.C	0.5865	111.5881	7110.	0.8679
92	-30.0	0.0	201.5818	6693.C	0.9863	133.5327	5214.C	0.7761
93	38.4	87.0	141.4911	1029.C	0.8976	141.3929	2061.C	0.9075
94	28.8	87.0	127.0019	6216.C	1.0860	120.3543	2550.C	0.8215
95	19.2	87.0	104.1424	7977.C	0.6407	87.0394	6312.C	0.7146
96	9.6	87.0	82.0244	7977.C	0.5043	81.9984	3309.C	0.7432
97	0.0	87.0	118.5975	3309.C	1.0756	77.9660	438.C	0.4633
98	60.0	0.0	128.1801	5328.C	0.7398	121.2624	7941.C	0.5394
99	60.0	9.8	150.4238	3648.	0.8482	149.8542	7725.C	0.7069

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TOP 50 TABLE FOR 8 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	16	38.4	57.0	8648C	320.1909	2.1985
2	4	30.0	0.0	3608C	317.7957	2.5114
3	3	20.0	0.0	1664C	315.9924	2.2060
4	70	40.0	39.0	8648C	313.6230	2.1520
5	4	30.0	0.0	1656C	310.8989	2.0206
6	4	30.0	0.0	3200C	306.3724	2.8458
7	2	10.0	0.0	1880C	299.3729	2.3954
8	3	20.0	0.0	3200C	294.2628	2.5286
9	5	30.0	9.0	3608C	293.7959	2.3154
10	3	20.0	0.0	1656C	292.7169	1.9382
11	2	10.0	0.0	2312C	286.4884	2.2286
12	5	30.0	9.0	3200C	283.2223	2.6095
13	4	30.0	0.0	1664C	276.1139	2.0047
14	28	20.0	-15.0	1664C	268.6855	1.8327
15	66	40.0	0.0	504C	263.6364	1.0492
16	4	30.0	0.0	3816C	259.9953	2.3587
17	66	40.0	0.0	6384C	259.5592	1.1962
18	2	10.0	0.0	3152C	258.6968	2.2226
19	5	30.0	9.0	3816C	254.9524	2.3037
20	5	30.0	9.0	1656C	254.4236	1.6593
21	28	20.0	-15.0	1656C	253.5842	1.6784
22	16	38.4	57.0	1440C	247.7250	1.5595
23	5	30.0	9.0	1664C	246.2364	1.7953
24	16	38.4	57.0	2928C	243.4726	1.9388
25	69	40.0	29.3	8648C	241.3210	1.6630
26	2	10.0	0.0	5840C	240.6289	2.5334

27	4	30.0	0.0	2984C	238.9628	1.3811
28	29	30.0	-15.0	1656C	236.7578	1.5340
29	17	28.8	57.0	3256C	236.3937	2.3698
30	3	20.0	0.0	3816C	234.8592	2.1135
31	15	48.0	48.0	8648C	233.9158	1.5948
32	3	20.0	0.0	5840C	232.4491	2.5343
33	2	10.0	0.0	7480C	232.4256	2.0685
34	2	10.0	0.0	2472C	232.2561	2.2338
35	4	30.0	0.0	680C	231.6420	1.1766
36	70	40.0	39.0	1440C	228.6386	1.4377
37	69	40.0	29.3	8416C	227.6226	1.6633
38	5	30.0	9.0	2096C	224.5186	1.4225
39	1	0.0	0.0	2472C	222.3754	2.1455
40	4	30.0	0.0	3032C	221.9909	1.9829
41	4	30.0	0.0	2288C	219.5882	1.5470
42	5	30.0	9.0	2984C	218.7731	1.2644
43	30	45.0	-15.0	504C	217.6643	0.8622
44	29	30.0	-15.0	3816C	214.2059	1.8848
45	30	45.0	-15.0	6384C	213.7064	0.9810
46	4	30.0	0.0	2096C	213.5220	1.3162
47	3	20.0	0.0	1880C	213.4493	1.7052
48	17	28.8	57.0	6168C	213.3789	1.8587
49	5	30.0	9.0	680C	212.4075	1.0837
50	70	40.0	39.0	8416C	211.8407	1.5389

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HIGHEST AND SECOND HIGHEST VALUES FOR 8 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	0.0	0.0	222.3754	2472.C	2.1455	191.0016	1584.C	1.5039
2	10.0	0.0	299.3729	1880.C	2.3954	286.4884	2312.C	2.2286
3	20.0	0.0	315.9924	1664.C	2.2060	294.2628	3200.C	2.5286
4	30.0	0.0	317.7957	3608.C	2.5114	310.8989	1656.C	2.0206
5	30.0	9.0	293.7959	3608.C	2.3154	283.2223	3200.C	2.6095
6	40.5	18.0	154.7885	8416.C	1.1350	137.2382	504.C	0.5466
7	51.0	18.0	89.1340	7944.C	0.3976	88.6476	5328.C	0.5135
8	61.5	18.0	44.2778	5328.C	0.2555	42.7695	7944.C	0.1901
9	72.0	18.0	33.7557	7944.C	0.1496	33.5787	5328.C	0.1932
10	72.0	28.5	47.4129	1968.C	0.3974	44.3971	2544.C	0.3425
11	72.0	39.0	67.9954	1968.C	0.5487	66.8385	2544.C	0.5168
12	64.0	39.0	87.1643	8416.C	0.6360	86.7182	1968.C	0.6903
13	56.0	39.0	123.0855	8416.C	0.8956	118.0579	8648.C	0.8083
14	48.0	39.0	205.2182	8648.C	1.4055	166.4614	8416.C	1.2092
15	48.0	48.0	233.9158	8648.C	1.5948	167.9471	8416.C	1.2201
16	38.4	57.0	320.1909	8648.C	2.1985	247.7250	1440.C	1.5595

17	28.8	57.0	236.3937	3256.C	2.3698	213.3789	6168.C	1.8587
18	19.2	57.0	133.1932	3720.C	1.3929	116.6256	440.C	0.7059
19	9.6	57.0	136.2640	440.C	0.8239	108.8242	3312.C	0.9991
20	0.0	57.0	100.9813	440.C	0.6084	74.5662	3312.C	0.6812
21	0.0	47.5	131.2174	440.C	0.7932	87.4057	3312.C	0.7996
22	0.0	38.0	104.9331	6504.C	0.9937	95.6512	440.C	0.5807
23	0.0	28.5	160.7964	1008.C	1.1976	134.9531	6504.C	1.1511
24	0.0	19.0	172.1674	1008.C	1.2435	171.4343	6504.C	1.5962
25	0.0	9.5	178.9847	6320.C	1.3708	171.6110	3152.C	1.2293
26	0.0	-15.0	189.6185	2312.C	1.4705	165.0139	2472.C	1.5772
27	10.0	-15.0	201.9730	1880.C	1.6027	193.0446	1664.C	1.2763
28	20.0	-15.0	268.6855	1664.C	1.8327	253.5842	1656.C	1.6784
29	30.0	-15.0	236.7578	1656.C	1.5340	214.2059	3816.C	1.8848
30	45.0	-15.0	217.6643	504.C	0.8622	213.7064	6384.C	0.9810
31	45.0	5.0	117.8361	3648.C	0.7615	112.5154	7736.C	0.8280
32	51.0	3.0	84.9497	5328.C	0.4915	83.1552	808.C	0.7609
33	61.5	3.0	70.3903	6512.C	0.3856	67.2365	4992.C	0.3959
34	72.0	3.0	58.8485	7944.C	0.2611	58.7952	7728.C	0.2765
35	87.0	3.0	37.3408	5328.C	0.2144	35.5772	7944.C	0.1573
36	87.0	28.5	26.4510	1968.C	0.2256	22.2649	5128.C	0.3013
37	87.0	39.0	42.5777	2544.C	0.3277	41.2249	1968.C	0.3429
38	87.0	54.0	57.3176	1968.C	0.4542	52.4973	2544.C	0.4055
39	64.0	54.0	127.3886	8648.C	0.8676	106.3571	8416.C	0.7709
40	63.0	48.0	108.9043	8648.C	0.7440	104.3756	8416.C	0.7574
41	63.0	57.0	143.2445	8648.C	0.9743	110.4612	8416.C	0.8002
42	63.0	72.0	168.9902	8648.C	1.1479	114.4890	1440.C	0.7164
43	28.8	72.0	114.9799	3256.C	1.1270	99.9753	6216.C	0.8580
44	19.2	72.0	101.9936	3720.C	1.0646	70.5373	4568.C	0.8677
45	9.6	72.0	83.8184	440.C	0.5039	76.0400	3312.C	0.6951
46	0.0	72.0	82.2036	440.C	0.4950	73.5782	3312.C	0.6723
47	-15.0	47.5	63.5934	6504.C	0.5522	51.6054	6392.C	0.2945
48	-15.0	38.0	91.9055	6504.C	0.8353	68.5451	7952.C	0.3115
49	-15.0	28.5	102.3625	1008.C	0.7879	100.5054	6504.C	0.8846
50	-15.0	19.0	115.0475	6504.C	1.0914	95.6818	1008.C	0.7044
51	-15.0	9.5	129.5177	6696.C	0.6368	94.2128	1008.C	0.5299
52	-15.0	0.0	123.9389	6320.C	0.9465	96.5094	6696.C	0.4744
53	-15.0	-15.0	120.6092	1584.C	0.9402	119.7478	2472.C	1.1547
54	-10.0	57.0	78.3033	440.C	0.4734	44.0853	3312.C	0.4060
55	-10.0	47.5	72.2547	6504.C	0.6259	67.1467	440.C	0.4065
56	-10.0	38.0	91.2839	6504.C	0.8457	69.6720	1008.C	0.5363
57	-10.0	28.5	120.6333	1008.C	0.9140	109.2784	6504.C	0.9528
58	-10.0	19.0	136.3729	6504.C	1.2816	116.2974	1008.C	0.8657
59	-10.0	9.5	142.8599	6696.C	0.7038	121.6706	1008.C	0.6917
60	-10.0	0.0	145.2582	6320.C	1.1075	107.6704	1584.C	0.8441
61	38.4	67.0	131.5592	6168.C	1.1571	129.2800	1808.C	0.6524
62	28.8	67.0	149.6217	3256.C	1.4734	127.0073	6168.C	1.0910
63	19.2	67.0	110.1184	3720.C	1.1499	79.9773	3312.C	0.7350
64	9.6	67.0	96.2117	440.C	0.5788	88.5555	3312.C	0.8085
65	0.0	67.0	96.1593	440.C	0.5798	72.9920	3312.C	0.6695

66	40.0	0.0	263.6364	504.C	1.0492	259.5592	6384.C	1.1962
67	40.0	9.8	142.9126	7736.C	1.0453	138.7327	2288.C	1.0157
68	40.0	19.5	171.8972	8416.C	1.2600	155.9444	8648.C	1.0768
69	40.0	29.3	241.3210	8648.C	1.6630	227.6226	8416.C	1.6633
→70	40.0	39.0	313.6230	8648.C	2.1520	228.6386	1440.C	1.4377
71	-20.0	57.0	48.5274	440.C	0.2932	48.4461	7952.C	0.2198
72	-20.0	47.5	56.4749	6504.C	0.4916	44.5573	1008.C	0.3919
73	-20.0	38.0	89.4394	6504.C	0.8028	76.0390	7952.C	0.3451
74	-20.0	28.5	92.3332	6504.C	0.8203	84.7085	1008.C	0.6673
75	-20.0	19.0	96.8077	6504.C	0.9275	76.7005	1008.C	0.5609
76	-20.0	9.5	100.0749	6696.C	0.4911	75.6699	5216.C	0.4408
77	-20.0	0.0	103.0643	6320.C	0.7887	99.7271	6696.C	0.4894
→78	38.4	77.0	139.1253	6168.C	1.2040	96.6687	1808.C	0.4873
79	28.8	77.0	91.6600	3256.C	0.8951	84.5485	6216.C	0.7246
80	19.2	77.0	91.1808	3720.C	0.9516	64.8921	7976.C	0.3998
81	9.6	77.0	72.0044	440.C	0.4325	65.4209	3312.C	0.5970
82	0.0	77.0	73.0921	440.C	0.4394	70.8362	3312.C	0.6449
83	50.0	0.0	114.2892	3648.C	0.7033	99.9136	7944.C	0.4454
84	50.0	9.8	79.6735	808.C	0.7251	74.6449	6512.C	0.4107
85	50.0	19.5	89.5090	1968.C	0.7349	88.0807	7944.C	0.3921
86	-30.0	57.0	43.4935	6392.C	0.2475	43.4378	7952.C	0.1967
87	-30.0	47.5	50.2588	6504.C	0.4347	42.7373	1008.C	0.3671
88	-30.0	38.0	79.7021	6504.C	0.7086	63.0179	6392.C	0.3586
89	-30.0	28.5	76.9736	6504.C	0.6978	54.6431	1008.C	0.4584
90	-30.0	19.0	72.1250	6504.C	0.7037	52.8624	1512.C	0.3983
91	-30.0	9.5	59.9090	6696.C	0.2932	58.5693	6504.C	0.5947
92	-30.0	0.0	100.7909	6696.C	0.4932	68.7450	6320.C	0.5294
→93	38.4	87.0	111.1760	6168.C	0.9695	70.7455	1032.C	0.4488
94	28.8	87.0	63.5010	6216.C	0.5430	63.0520	3256.C	0.6120
95	19.2	87.0	68.4739	3720.C	0.7144	52.0712	7976.C	0.3204
96	9.6	87.0	57.6801	3720.C	0.5989	49.2631	4568.C	0.6039
97	0.0	87.0	61.4511	440.C	0.3684	59.2988	3312.C	0.5378
98	60.0	0.0	64.0901	5328.C	0.3699	61.8903	808.C	0.5557
99	60.0	9.8	75.2123	3648.C	0.4241	74.9271	7728.C	0.3534

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TOP 50 TABLE FOR 24 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	16	38.4	57.0	8664C	191.7942	1.3107
2	70	40.0	39.0	8664C	188.7064	1.2947
3	2	10.0	0.0	1896C	147.8191	1.2240
4	69	40.0	29.3	8664C	147.7060	1.0207
5	3	20.0	0.0	3216C	145.7493	1.2911
6	3	20.0	0.0	3816C	143.7533	1.3929

8hrs operation

Setback 10m — Conc 104.5 μgm^{-3}

20m — 46.4 μgm^{-3}

30m — 37.0 μgm^{-3}

For 12-hr operation

$$\frac{(\text{8hrs conc}) * \left(0.55 \times \frac{12}{24}\right)}{\left(0.7 * \frac{8}{24}\right)}$$

= 8 hr impact * $\left(\frac{PF\ 12hr}{PF\ 8hr}\right)$

PF = persistance factors.

7	15	48.0	48.0	8664C	142.3726	0.9711
8	2	10.0	0.0	5568C	140.4918	1.6769
9	3	20.0	0.0	1896C	129.4648	1.0849
10	3	20.0	0.0	5568C	126.8347	1.4526
11	14	48.0	39.0	8664C	126.7512	0.8706
12	4	30.0	0.0	3816C	125.5529	1.1938
13	2	10.0	0.0	2328C	125.1950	0.9403
14	4	30.0	0.0	3048C	123.6422	1.1862
15	3	20.0	0.0	2112C	122.9428	0.8506
16	3	20.0	0.0	3048C	121.4696	1.1623
17	2	10.0	0.0	5856C	121.0184	1.2498
18	5	30.0	9.0	3816C	120.0556	1.1377
19	4	30.0	0.0	3624C	117.8699	0.9387
20	4	30.0	0.0	696C	115.8109	0.6658
21	5	30.0	9.0	3624C	113.7699	0.9136
22	5	30.0	9.0	3048C	113.4258	1.0904
23	2	10.0	0.0	7488C	111.4721	0.9788
24	3	20.0	0.0	8256C	111.4478	0.8758
25	4	30.0	0.0	3216C	111.3311	1.0401
26	3	20.0	0.0	1656C	110.9778	0.7598
27	2	10.0	0.0	5064C	109.4342	1.1791
28	17	28.8	57.0	3264C	107.2904	1.0830
29	27	10.0	-15.0	1896C	106.3634	0.8784
30	3	20.0	0.0	1680C	105.3308	0.7353
31	4	30.0	0.0	1656C	104.5791	0.6881
32	5	30.0	9.0	3648C	104.2972	0.9828
33	3	20.0	0.0	5856C	104.1429	1.1120
34	3	20.0	0.0	2328C	103.8258	0.7616
35	4	30.0	0.0	816C	102.7267	0.8983
36	4	30.0	0.0	2112C	102.6900	0.6706
37	42	63.0	72.0	8664C	102.1249	0.6930
38	5	30.0	9.0	3216C	102.0560	0.9459
39	3	20.0	0.0	4752C	101.5300	1.0142
40	4	30.0	0.0	8256C	101.3559	0.7746
41	5	30.0	9.0	696C	101.1761	0.5820
42	5	30.0	9.0	2112C	100.9967	0.6667
43	3	20.0	0.0	5064C	100.5248	1.1080
44	4	30.0	0.0	336C	100.0925	0.8095
45	28	20.0	-15.0	1896C	99.8899	0.8333
46	3	20.0	0.0	4944C	99.5572	1.1376
47	4	30.0	0.0	3648C	98.1075	0.9163
48	1	0.0	0.0	5568C	98.0892	1.1452
49	29	30.0	-15.0	3816C	97.5857	0.8958
50	3	20.0	0.0	3624C	97.4740	0.8136

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HIGHEST AND SECOND HIGHEST VALUES FOR 24 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	0.0	0.0	98.0892	5568.C	1.1452	82.7757	2472.C	0.8148
2	10.0	0.0	147.8191	1896.C	1.2240	140.4918	5568.C	1.6769
3	20.0	0.0	145.7493	3216.C	1.2911	143.7533	3816.C	1.3929
4	30.0	0.0	125.5529	3816.C	1.1938	123.6422	3048.C	1.1862
5	30.0	9.0	120.0556	3816.C	1.1377	113.7699	3624.C	0.9136
6	40.5	18.0	80.3608	8664.C	0.5587	66.7844	1968.C	0.5327
7	51.0	18.0	48.0374	2160.C	0.3396	37.3543	1968.C	0.3034
8	61.5	18.0	22.9965	2160.C	0.1649	22.2708	1968.C	0.1828
9	72.0	18.0	15.4356	2160.C	0.1061	15.3623	1968.C	0.1254
10	72.0	28.5	22.4131	1968.C	0.1837	16.3352	2160.C	0.1348
11	72.0	39.0	27.9565	8424.C	0.2030	27.6537	1968.C	0.2212
12	64.0	39.0	38.9413	8424.C	0.2823	36.8522	1968.C	0.2908
13	56.0	39.0	73.8733	8664.C	0.5095	53.0377	8424.C	0.3840
14	48.0	39.0	126.7512	8664.C	0.8706	69.0641	8424.C	0.4999
15	48.0	48.0	142.3726	8664.C	0.9711	69.0643	8424.C	0.5001
16	38.4	57.0	191.7942	8664.C	1.3107	86.5621	2928.C	0.6925
17	28.8	57.0	107.2904	3264.C	1.0830	72.3742	2064.C	0.5020
18	19.2	57.0	53.1135	4584.C	0.6814	49.2524	3720.C	0.4945
19	9.6	57.0	52.6672	456.C	0.3290	40.9259	4584.C	0.5141
20	0.0	57.0	39.7652	456.C	0.2485	24.8554	3312.C	0.2271
21	0.0	47.5	54.8335	456.C	0.3476	30.7910	8016.C	0.1878
22	0.0	38.0	40.0762	456.C	0.2550	36.8595	8064.C	0.2917
23	0.0	28.5	53.5988	1008.C	0.3992	53.0056	456.C	0.3490
24	0.0	19.0	69.4610	8064.C	0.5482	60.9706	8256.C	0.4873
25	0.0	9.5	81.2400	8256.C	0.6362	69.2699	8208.C	0.6096
26	0.0	-15.0	93.5093	5568.C	1.0603	73.1677	5856.C	0.7459
27	10.0	-15.0	106.3634	1896.C	0.8784	77.6949	2328.C	0.5716
28	20.0	-15.0	99.8899	1896.C	0.8333	89.6268	2112.C	0.6197
29	30.0	-15.0	97.5857	3816.C	0.8958	85.3250	3048.C	0.8127
30	45.0	-15.0	72.5571	504.C	0.2874	71.2355	6384.C	0.3270
31	45.0	5.0	46.6724	4776.C	0.4129	46.4357	7896.C	0.2878
32	51.0	3.0	37.6166	7896.C	0.2298	34.2863	4776.C	0.3044
33	61.5	3.0	27.4885	7896.C	0.1660	24.6562	5064.C	0.1590
34	72.0	3.0	20.0831	7896.C	0.1208	19.8416	2160.C	0.1121
35	87.0	3.0	12.4471	5328.C	0.0715	11.8591	7944.C	0.0524
36	87.0	28.5	13.4109	1968.C	0.1108	7.9423	5136.C	0.1062
37	87.0	39.0	16.3332	1968.C	0.1343	14.8572	8424.C	0.1081
38	87.0	54.0	23.9435	8424.C	0.1734	20.4920	1968.C	0.1617
39	64.0	54.0	78.2086	8664.C	0.5348	44.9034	8424.C	0.3242
40	63.0	48.0	67.3765	8664.C	0.4630	44.5209	8424.C	0.3217
41	63.0	57.0	87.6537	8664.C	0.5982	46.3449	8424.C	0.3345
42	63.0	72.0	102.1249	8664.C	0.6930	38.1630	1440.C	0.2388
43	28.8	72.0	55.9554	3264.C	0.5561	34.5460	3720.C	0.2869
44	19.2	72.0	35.9790	3720.C	0.3672	31.1596	3264.C	0.3075
45	9.6	72.0	28.2671	4584.C	0.3733	28.0031	456.C	0.1685
46	0.0	72.0	28.1853	456.C	0.1709	24.5261	3312.C	0.2241

47	-15.0	47.5	23.0932	456.C	0.1515	21.1978	6504.C	0.1841
48	-15.0	38.0	30.6352	6504.C	0.2784	28.9927	8064.C	0.2266
49	-15.0	28.5	34.8495	8064.C	0.2716	34.1208	1008.C	0.2626
50	-15.0	19.0	38.3641	8064.C	0.3037	38.3492	6504.C	0.3638
51	-15.0	9.5	47.6695	6696.C	0.2690	39.7992	8256.C	0.3205
52	-15.0	0.0	41.3130	6336.C	0.3155	41.2807	8256.C	0.3241
53	-15.0	-15.0	45.2618	8208.C	0.3891	42.6007	5568.C	0.4863
54	-10.0	57.0	32.5104	456.C	0.2057	19.8646	8016.C	0.1209
55	-10.0	47.5	31.5864	456.C	0.2044	24.3071	7968.C	0.1573
56	-10.0	38.0	31.2938	8064.C	0.2454	30.4280	6504.C	0.2819
57	-10.0	28.5	40.2111	1008.C	0.3047	38.4107	8064.C	0.2986
58	-10.0	19.0	46.0893	8064.C	0.3645	45.4576	6504.C	0.4272
59	-10.0	9.5	54.6442	6696.C	0.3234	48.7240	8256.C	0.3909
60	-10.0	0.0	51.2850	8256.C	0.3966	48.5973	8208.C	0.4270
61	38.4	67.0	64.6905	1824.C	0.4345	58.2970	8664.C	0.3941
62	28.8	67.0	71.8585	3264.C	0.7165	44.7328	3720.C	0.3682
63	19.2	67.0	39.2832	3720.C	0.3993	34.6049	4584.C	0.4635
64	9.6	67.0	32.8340	456.C	0.1987	31.9697	4584.C	0.4192
65	0.0	67.0	34.5013	456.C	0.2116	24.3307	3312.C	0.2232
66	40.0	0.0	87.8858	504.C	0.3498	86.5197	6384.C	0.3987
67	40.0	9.8	64.4664	696.C	0.3657	61.3211	3456.C	0.7442
68	40.0	19.5	95.2492	8664.C	0.6607	72.3745	8424.C	0.5279
69	40.0	29.3	147.7060	8664.C	1.0207	94.9486	8424.C	0.6908
70	40.0	39.0	188.7064	8664.C	1.2947	89.1013	5136.C	1.1523
71	-20.0	57.0	22.7389	456.C	0.1468	19.5881	7968.C	0.1203
72	-20.0	47.5	19.9979	8016.C	0.1215	18.9280	456.C	0.1251
73	-20.0	38.0	30.3796	7968.C	0.1839	29.8131	6504.C	0.2676
74	-20.0	28.5	31.2825	8064.C	0.2444	30.7777	6504.C	0.2734
75	-20.0	19.0	32.9612	8064.C	0.2612	32.2692	6504.C	0.3092
76	-20.0	9.5	36.2573	6696.C	0.2002	33.3315	8256.C	0.2693
77	-20.0	0.0	38.7321	6696.C	0.2324	34.3548	6336.C	0.2629
78	38.4	77.0	46.3751	6168.C	0.4013	42.2949	1824.C	0.2641
79	28.8	77.0	45.0964	3264.C	0.4470	28.1828	6216.C	0.2415
80	19.2	77.0	31.9444	3720.C	0.3268	28.7187	3264.C	0.2831
81	9.6	77.0	25.5045	4584.C	0.3368	24.0043	456.C	0.1442
82	0.0	77.0	24.5263	456.C	0.1477	23.6121	3312.C	0.2150
83	50.0	0.0	41.2564	7896.C	0.2530	38.3848	4776.C	0.3385
84	50.0	9.8	35.0568	7896.C	0.2140	32.0436	4776.C	0.2862
85	50.0	19.5	48.9653	2160.C	0.3562	42.2625	1968.C	0.3412
86	-30.0	57.0	17.7997	7968.C	0.1109	17.1268	8016.C	0.1040
87	-30.0	47.5	18.7407	8016.C	0.1137	17.5904	7968.C	0.1158
88	-30.0	38.0	26.5674	6504.C	0.2362	25.5406	7968.C	0.1596
89	-30.0	28.5	25.6579	6504.C	0.2326	24.6950	8064.C	0.1939
90	-30.0	19.0	25.6430	8064.C	0.2036	24.0417	6504.C	0.2346
91	-30.0	9.5	25.6836	8064.C	0.2043	23.5773	8304.C	0.2759
92	-30.0	0.0	36.2270	6696.C	0.1975	24.2148	8256.C	0.1945
93	38.4	87.0	37.0587	6168.C	0.3165	30.8663	2064.C	0.2060
94	28.8	87.0	31.6448	3264.C	0.3124	21.1670	6216.C	0.1810
95	19.2	87.0	24.1076	3264.C	0.2371	23.8337	3720.C	0.2444

96	9.6	87.0	20.8960	4584.C	0.2751	19.2691	3720.C	0.1999
97	0.0	87.0	20.4865	456.C	0.1228	19.7663	3312.C	0.1793
98	60.0	0.0	29.6292	7896.C	0.1792	23.6544	4776.C	0.2112
99	60.0	9.8	27.5541	2160.C	0.1673	26.4633	7896.C	0.1598

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TOP 50 TABLE FOR LONG TERM AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	3	20.0	0.0	8760C	140.2276	1.2825
2	5	30.0	9.0	8760C	119.4271	1.0790
3	4	30.0	0.0	8760C	114.1354	1.0076
4	2	10.0	0.0	8760C	101.4194	0.9511
5	69	40.0	29.3	8760C	85.2728	0.7476
6	68	40.0	19.5	8760C	84.3695	0.7398
7	70	40.0	39.0	8760C	78.7257	0.6839
8	6	40.5	18.0	8760C	78.2846	0.6877
9	66	40.0	0.0	8760C	74.7547	0.6316
10	67	40.0	9.8	8760C	70.8971	0.6272
11	29	30.0	-15.0	8760C	69.7321	0.5992
12	25	0.0	9.5	8760C	69.6975	0.6692
13	16	38.4	57.0	8760C	67.8887	0.6043
14	1	0.0	0.0	8760C	66.1175	0.6275
15	28	20.0	-15.0	8760C	65.7309	0.5795
16	24	0.0	19.0	8760C	61.3247	0.5802
17	27	10.0	-15.0	8760C	57.0310	0.5150
18	17	28.8	57.0	8760C	49.9765	0.4844
19	14	48.0	39.0	8760C	49.0333	0.4177
20	30	45.0	-15.0	8760C	48.9095	0.4113
21	31	45.0	5.0	8760C	47.3796	0.4057
22	15	48.0	48.0	8760C	47.1440	0.4073
23	26	0.0	-15.0	8760C	45.7386	0.4259
24	23	0.0	28.5	8760C	44.0170	0.4030
25	60	-10.0	0.0	8760C	39.7205	0.3750
26	59	-10.0	9.5	8760C	39.6769	0.3724
27	83	50.0	0.0	8760C	36.7015	0.3043
28	58	-10.0	19.0	8760C	36.1312	0.3431
29	61	38.4	67.0	8760C	35.4124	0.3247
30	85	50.0	19.5	8760C	33.1318	0.2902
31	18	19.2	57.0	8760C	31.9190	0.3238
32	52	-15.0	0.0	8760C	31.6208	0.2957
33	32	51.0	3.0	8760C	31.0527	0.2626
34	51	-15.0	9.5	8760C	30.9284	0.2891
35	7	51.0	18.0	8760C	30.0990	0.2626
36	13	56.0	39.0	8760C	29.8732	0.2569

37	62	28.8	67.0	8760C	29.7733	0.2846
38	57	-10.0	28.5	8760C	29.6702	0.2714
39	84	50.0	9.8	8760C	29.6353	0.2593
40	50	-15.0	19.0	8760C	28.4301	0.2695
41	53	-15.0	-15.0	8760C	28.3111	0.2672
42	41	63.0	57.0	8760C	27.8696	0.2331
43	42	63.0	72.0	8760C	27.2984	0.2245
44	22	0.0	38.0	8760C	27.1099	0.2572
45	39	64.0	54.0	8760C	25.8658	0.2181
46	77	-20.0	0.0	8760C	25.7405	0.2382
47	49	-15.0	28.5	8760C	25.1966	0.2306
48	76	-20.0	9.5	8760C	24.7127	0.2308
49	40	63.0	48.0	8760C	24.3630	0.2088
50	75	-20.0	19.0	8760C	22.7949	0.2157

DATE AT END OF RUN: 03/19/96 TIME AT END OF RUN: 12:30:43.46
ELAPSED TIME FOR THIS RUN: 0.32821E+04 SECONDS
OR 0 HOURS 54 MINUTES 42.07 SECONDS

APPENDIX B

Approval Memorandum for Relocation Proposed Site

May 2, 1996

MEMORANDUM

TO: Darrin Mehr, Air Quality Engineer, Operating Permits Bureau (OPB), Permits and Enforcement (P&E)

FROM: Krishna Viswanathan, Air Quality Engineer, Air Resources & Prevention (ARP), Community Services (CS)

SUBJECT: Approval of alternate site location requested by Lake Pre-Mix Inc.

Background

Lake Pre-Mix, Sandpoint was one of the facilities in the Sandpoint non-attainment area (NAA) subject to industrial control strategy in the Sandpoint SIP. A set-back analysis was performed on this facility by the P&E (memo. dated 05.22.95 - Chris Johnson) to determine the impacts due to various set-backs for the facility from fence-line. The technical memorandum associated with the permit issued based on the modeling stated that "....The option tentatively decided upon will allow Lake Pre-Mix to relocate one time to a site with an ambient PM_{10} concentration of 90 μgm^{-3} or less provided Lake Pre-Mix operates with a 20 m set back restriction .....".

Based on the modeling and analysis information in that memorandum, the facility owner, Steve Lafrenz, approached DEQ with different relocation scenarios. Steve Lafrenz further wanted to assess the ability to move his plant to a location with a background value of 93 μgm^{-3}. After reviewing his request, and the modeling and permit memoranda, DEQ opines that this is allowable, based on the method of analysis and the degree of conservatism applied to this analysis. For more details on earlier modeling refer to memorandum dated May 22, 1995 by Chris Johnson, P&E.

Discussion:

The results from the modeling are tabulated below for 8 hours and 12 hours of operation per day, as a 24-hr average. The setback distances give the distance from the fence-line in meters, that emissions generating processes in facility have to be offset inside the facility boundary. The impacts are given for 8 and 12 hours of operation, as 24 hour averages. Background allowances specify the background value of location, permissible for each setback distance.

The first row reads; for a 10 m setback and 8 hours of operation the facility impact at fence-line would be 104.5 μgm^{-3} and the facility can be relocated to an area with background concentration of 45.5 μgm^{-3}. For the same setback, 12 hours of operation causes a 123.2 μgm^{-3} impact at fence-line and in that case the facility can be located to an area with a background concentration of 26.8 μgm^{-3}.

Setback Distances (m)	24-hr average impacts for 8 hour operation (μgm^{-3})	Background allowances 8 hr ops.	24-hr average impacts for 12 hour operation (μgm^{-3})	Background allowances 12 hr ops.
10	104.5	45.5	123.2	26.8
20	46.4	103.6	54.7	95.3
30	37.0	113	43.6	106.4

Using a 20 m setback and 12 hours of operation the actual modeled concentration value is 54.7 μgm^{-3}. This allows the facility to be relocated to a site with a background of 95.3 μgm^{-3} (See Table). The technical memorandum associated with the permit specified a value of no more than 90 μgm^{-3} instead of 95.3 μgm^{-3}, as a measure of conservatism.

Furthermore, for any given site the background values will be considerably less compared to the existing background contour map prepared from this model run. This is because the modeling was initially performed with RACT controls for all facilities in the NAA. However, several facilities were subsequently required by permits to have BACT controls on several sources which only had RACT controls earlier, thereby reducing impact values considerably. This also leads to less overall background on a NAA-wide basis.

Results:

Due to the above mentioned reasons the modeling and associated background contours are conservatively high. **Re-location of this facility to a site with a 93 μgm^{-3} will not adversely affect the SIP control strategy which is currently being implemented to bring the area into attainment, in compliance with the National Ambient Air Quality Standards. Therefore, relocation of Lake Pre-Mix Concrete Inc. to a site, in the Sandpoint NAA, with a background value of 93 μgm^{-3} is allowable based on the SIP control strategy.**

All other conditions exist as per operating permit No. 017-00040. This memorandum does not preclude the owner from any outstanding P&E requirements associated with dismantling and moving his facility to a different location. The facility owner should work in close contact with P&E, to ensure compliance with all applicable air rules for the State of Idaho.

CC: Mike McGown, Manager, AQPS
Sue Richards, Manager, OPB
Mary Walsh, Meteorologist, TSB